



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/574,437	05/20/2000	BARBARA A FOX	10.0776	8670
22474	7590	07/20/2006	EXAMINER	
DOUGHERTY CLEMENTS 1901 ROXBOROUGH ROAD SUITE 300 CHARLOTTE, NC 28211			AVELLINO, JOSEPH E	
			ART UNIT	PAPER NUMBER
			2143	

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/574,437

Applicant(s)

FOX ET AL.

Examiner

Joseph E. Avellino

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 8-16 and 20-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-16 and 20-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

1. Claims 1-4, 6, 8-16, and 20-55 are presented for examination.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 3, 2006 has been entered.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 6, 10-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Factor (USPN 6,272,523) in view of Marques et al. (USPN 6,643,706) in view of Henry et al. (USPN 6,681,392) (hereinafter Henry).

4. Referring to claim 1, Factor discloses a computer system, comprising:

Art Unit: 2143

a plurality of hardware resources (physical processes/servers) (Figure 2, reference characters 28, 30, and 32);

a plurality of logical resources (logical processes) created in a logical model (i.e. the Office takes the term "logical model" as "an entity which creates the logical resource", in this case the system of Factor creates the logical processes in such a way that they model the hardware resources) wherein the logical resources represent hardware resources (i.e. logical resources map to the physical processes) (e.g. abstract; Figure 3, reference characters 42, and 44);

a plurality of functional processes (web browsers/applications from clients) (Figure 3, reference character 36; col. 3, lines 53-65);

a configuration process for configuring certain of the plurality of functional processes on particular ones of the logical resources (col. 3, lines 53-57); and

a mapping process for creating a map associating the plurality of hardware resources with the plurality of logical resources (e.g. abstract; col. 6, lines 27-32).

Factor inherently includes an operating system, since without it, the server would not be able to perform the functions which were described. Factor further discloses that process are decoupled from the system through views of the logical model (i.e. selection functions 45,47 which define as to how the logical model is to map the request to a physical process, this in essence, defines the set of data the process can access since the process is restricted to data with which that particular physical process has access to) (col. 6, lines 4-32), said views defining a particular set of data to which an associated process has access, wherein views allow multiple different processes to use

Art Unit: 2143

the same logical model (i.e. different processes can use the selection functions in the same logical resource). However Factor does not specifically disclose an operating system that includes memory management which supports a protected memory model, wherein a process is assigned a unique or separate protected memory block, such that processes may be started, upgraded or restarted independently of other processes. In analogous art, Marques discloses another computer system which discloses another operating system that includes memory management which supports a protected memory model (i.e. isolated fault occurrences), wherein a process (i.e. threads) is assigned a separate (i.e. own) protected memory block (col. 5, lines 50-60). Although it is not stated expressly that the processes may be started independently of other processes this would be an inherent feature of the system since each thread is isolated, that in order for a thread to crash as expressly taught by Marques, it must be started, and as such if the thread resides in its own memory space, it is independent of other threads. It would have been obvious to one of ordinary skill in the art to combine the teaching of Marques with Factor since, as one of ordinary skill in the art would know, Factor inherently requires an operating system to execute the application programs running, however does not recite any specifics or configurations as to the operating system. This would lead one of ordinary skill in the art to find other network operating systems, eventually finding the OS of Marques.

Factor in view of Marques do not specifically disclose that the software applications are upgraded and downgraded independent of each other and without having to reboot the computer system. In analogous art, Henry discloses another

Art Unit: 2143

computer system which discloses the software applications are upgraded and downgraded independent of each other and without having to reboot the computer system (e.g. abstract). It would have been obvious to one of ordinary skill in the art to combine the teaching of Henry with Factor and Marques in order to provide installation of peripheral software on a remote device without rebooting or disrupting the remote system's operation, thereby reducing the downtime of the system as supported by Henry (col. 2, lines 5-15).

5. Referring to claim 2, Factor discloses the computer system is a network device and wherein the mapping process is a network management system process (col. 6, lines 4-10).

6. Claim 6 is rejected for similar reasons as stated above.

7. Referring to claim 10, Factor discloses a method and system of operating a computing system as stated in the claims above. Factor does not disclose the functional processes include device driver processes, however it is suggested by the prior art that this feature would be obvious to include to the system of Factor to allow the flexibility of adding servers to allow communications to occur with other devices.

8. Referring to claims 11 and 12, Factor discloses a method and system of operating a computing system as stated in the claims above. Factor does not disclose

Art Unit: 2143

the functional processes include an ATM network protocol application, however it is suggested by the prior art that this feature would be obvious to include to the system of Factor because ATM networking is well known in the art of networking and is an alternative to the standard Ethernet networking system.

9. Claims 13, 14, 21, 22, 27-29, 31-40, 42, and 50-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Factor in view of Marques in view of Henry in view of Modi et al. (USPN 6,667,980) (hereinafter Modi).

10. Referring to claim 13, Factor in view of Marques in view of Henry discloses the invention substantively as described in the claims above. Factor in view of Marques in view of Henry do not explicitly state the backup module assumes the resolvable logical name for an upgrade or failure. In analogous art Modi discloses another computer system wherein the backup module takes the place of an interface node without the failure being visible to the clients 121-123 (col. 5, lines 5-15). It would have been obvious to one of ordinary skill in the art to combine the teaching of Modi with Factor Marques and Henry in order to allow the logical process names to be updated in case of failure, thereby providing a highly-available system available to the clients regardless of the status of the devices without the clients being affected by the switchover as supported by Modi (col. 5, lines 5-15).

Art Unit: 2143

11. Referring to claim 27, Factor discloses the process comprises a first process, the logical resource comprises a first logical resource and the physical resource comprises a first physical resource and further comprising:

configuring a second process (client/application) on a second logical resource (col. 6, lines 4-32; Figures 3 and 5); and

applying the configured second logical resource to a second physical resource (col. 6, lines 4-32; Figures 3 and 5).

12. Referring to claim 28, Factor discloses the first and second processes (clients/applications) are the same process (col. 6, lines 33-39).

13. Referring to claim 29, Factor discloses the first and second processes (clients/applications) are different processes (col. 6, lines 4-32) (it is inherent that when Factor discloses an embodiment of the invention to be used on the Internet (col. 6, line 6) that there are multiple clients to access multiple logical processes).

14. Referring to claim 31, Factor discloses the first and second logical resources are the different logical resources (col. 6, lines 10-12).

15. Referring to claim 32, Factor discloses a method of operating a computing system as stated in the claims above. Factor does not necessarily state that the first and second physical resources are the same logical resource, however it is suggested

Art Unit: 2143

by the prior art that it would be obvious that the first and second physical resource can be the same to allow multiple logical resources the opportunity to interface with that particular physical resource (i.e. multiple proxy servers interfacing with one content server).

16. Referring to claim 33, Factor discloses the first and second physical resources are the different hardware resources (one-to-many mapping resources) (col. 3, line 66 to col. 4, line 15).

17. Referring to claims 34 and 35, Factor discloses a method of operating a computer system as stated in the claims above. Factor furthermore discloses filling in a plurality of fields in a plurality of tables in a database for mapping logical processes to physical processes (col. 4, lines 1-6). Factor does not disclose that configuring a process on a logical resource comprises filling in a plurality of fields in a plurality of tables in a configuration database. However it is suggested by the prior art that it would have been obvious to incorporate the teaching of mapping logical to physical processes to functional processes on a logical resource to keep track of specific settings and configurations necessary for the process to interact with the logical resource.

18. Referring to claim 36, Factor discloses a method of operating a computer system as stated in the claims above. Factor does not disclose the plurality of tables comprise an application group table, however it is suggested by the prior art that it would have

Art Unit: 2143

been obvious to incorporate an application group table to the system of Factor to reduce the overall complexity of the system while allowing for monitoring tools to determine which applications are degrading the overall performance of the system.

19. Referring to claim 37, Factor discloses a method of operating a computer system as stated in the claims above. Factor does not disclose the plurality of tables comprise an application interface table, however it is suggested by the prior art that it would have been obvious to incorporate an application interface table to the system of Factor to determine the interaction between the applications and to increase the overall performance of the system, while further reducing complexity and user monitoring.

20. Referring to claim 38, Factor discloses a method of operating a computer system as stated in the claims above. Factor does not disclose the plurality of tables comprise a service end point table, however it is suggested by the prior art that it would have been obvious to incorporate a service end point table to reduce overall complexity of the system and to easily determine what resources are currently being used by which users of the system.

21. Referring to claim 39, Factor discloses assigning a logical identifier to the physical resource (col. 5, line 43 to col. 6, line 4).

Art Unit: 2143

22. Referring to claim 40, Factor discloses filling in a field in a table in a configuration database (col. 4, lines 1-15).

23. Referring to claim 42, Factor discloses the logical resource represents a physical hardware module (i.e. server) and the physical resource comprises the physical hardware module (Figures 2-3; col. 5 line 43 to col. 6, line 32).

24. Referring to claim 50, Factor discloses the logical resource comprises a logical identifier (col. 5, lines 61-64).

25. Referring to claim 51, Factor discloses the computer system comprises a network device (i.e. server) (Figures 1-3).

26. Referring to claim 52, Factor discloses configuring the process on the logical resource comprises:

configuring network connectivity on the logical resource (allow the logical process access to the network to connect with the physical processes) (col. 4, lines 16-34; Figures 1-3);

configuring a process on a logical resource (interact with clients/applications (col. 3, lines 52-55);

applying the configured logical resource to a physical resource (col. 4, lines 1-15).

27. Referring to claim 53, Factor discloses a method of operating a computer system as stated in the claims above. Factor does not disclose adding the physical resource to the computer system, wherein applying the configured logical resource to the physical resource is delayed until the physical resource is added to the computer system.

However it is suggested by the prior art that it would have been obvious to add the physical resource to the computer system, wherein applying the configured logical resource to the physical resource is delayed until the physical resource is added to the computer system for increased flexibility in that adding servers or replicating processes can all be done within the interface system totally transparent to the client as supported by Factor (col. 6, lines 1-4).

28. Referring to claim 55, Factor discloses the process comprises an application (col. 3, lines 53-55).

29. Claims 13, 14, 21, 22, and 54 are rejected for similar reasons as stated above.

Claims 23-26, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Factor in view of Marques in view of Henry in view of Bruck et al. (USPN 6,088,330) (hereinafter Bruck).

Art Unit: 2143

30. Referring to claims 23, 24, and 26, Factor in view of Marques in view of Henry discloses a method of operating a computer system as stated in the claims above.

Factor in view of Marques in view of Henry does not disclose detecting a fault on the physical resource, failing over from one resource to another and applying the logical resource to the other physical resource. Bruck discloses:

detecting a fault on the physical resource (col. 2, lines 23-40);

failing over from the physical resource to a second physical resource (col. 2, lines 23-40); and

applying the configured logical resource to the second physical resource (col. 2, lines 23-40).

31. Referring to claim 25, Factor in view of Marques in view of Henry in view of Bruck disclose a method of operating a computer system as stated in the claims above.

Factor in view of Marques in view of Henry in view of Bruck do not disclose the event includes a resource consumption notification, however it is suggested by the prior art that it would have been obvious to modify the system of Factor and Bruck to include a resource consumption notification to monitor the relative health of the resource (i.e. link, switch, router, etc.) and to determine if the resource is overused or underused.

32. Referring to claim 30, Factor in view of Marques in view of Henry discloses a method of operating a computing system as stated in the claims above. Factor in view of Marques in view of Henry does not disclose that the first and second logical

Art Unit: 2143

resources are the same logical resource. Bruck discloses the first and second logical resources are the same resource (col. 2, lines 23-35). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Bruck and Factor to allow logical resources to switch physical resources when a physical resource is not working or has been deactivated.

Claims 3, 4, 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Factor in view of Marques in view of Henry in view of Allen et al. (USPN 5,704,041) (hereinafter Allen).

33. Referring to claims 8, 9, Factor in view of Marques in view of Henry discloses a computer system as stated in the claims above. Factor in view of Marques in view of Henry does not disclose that the hardware resources include line cards. Allen discloses that physical resources include computer cards (col. 1, lines 25-35). From this, It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Factor with Allen to allow multiple components of a computer to be represented by objects to be monitored and itemized to facilitate monitoring and inventory.

34. Referring to claims 3-4, Factor in view of Allen discloses a computer system as stated in the claims above. Factor in view of Allen does not disclose the table comprises a logical to physical card table, however it is suggested by the prior art that

Art Unit: 2143

this feature would have been obvious to one of ordinary skill in the art to include to the combined system of Factor and Allen to allow the logical and physical cards to be mapped to each other, facilitating associations between resources as well as for simplified access to important information.

Claims 15, 16, 20, 41, and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Factor in view of Marques in view of Henry in view of Modi in view of Allen.

35. Referring to claims 20, and 43-45, Factor discloses a computer system as stated in the claims above. Factor does not disclose that the hardware resources include line cards. Allen discloses that physical resources include computer cards (col. 1, lines 25-35). From this, It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Factor with Allen to allow multiple components of a computer to be represented by objects to be monitored and itemized to facilitate monitoring and inventory.

36. Referring to claim 41, Factor in view of Allen discloses a computer system as stated in the claims above. Factor in view of Allen does not disclose the table comprises a logical to physical card table, however it is suggested by the prior art that this feature would have been obvious to one of ordinary skill in the art to include to the combined system of Factor and Allen to allow the logical and physical cards to be

Art Unit: 2143

mapped to each other, facilitating associations between resources as well as for simplified access to important information.

37. Referring to claims 46 and 47, Factor in view of Allen disclose a computer system as stated in the claims above. Factor in view of Allen do not disclose that the physical hardware module comprises a central processing board, but rather a card, however the prior art suggests that this feature would have been obvious to one of ordinary skill in the art to include to the combined system of Factor and Allen to further expand the number and types of physical resources available to be instantiated as an object for facilitated monitoring and inventorying.

Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Factor in view of Marques in view of Henry in view of Modi in view of Davis et al. (USPN 6,477,566) (hereinafter Davis).

38. Referring to claim 48, Factor discloses a method of controlling a computer system as stated in the claims above. Factor does not disclose the logical resource represents a physical port on a forwarding card and the physical resource comprises the physical port on the forwarding card. Davis discloses a the logical resource which represents a physical port on a forwarding card and that the physical resource comprises the physical port on the forwarding card (col. 17, lines 14-27). It would be obvious to a person of ordinary skill in the art at the time the invention was made to

Art Unit: 2143

combine the teaching of Davis with Factor to facilitate monitoring and management of physical resources by associating a template with the resource to facilitate message passing between the resources as supported in Davis (e.g. abstract).

39. Referring to claim 49, Factor discloses a method of controlling a computer system as stated in the claims above. Factor does not disclose the logical resource comprises a service endpoint and the physical port comprises a port on a forwarding card. Davis discloses the logical resource comprises a service endpoint and the physical port comprises a port on a forwarding card (col. 17, lines 14-27). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Davis with Factor to facilitate monitoring and management of physical resources by associating a template with the resource to facilitate message passing between the resources as supported in Davis (e.g. abstract).

Response to Amendment

40. The Office has considered the amendments to the independent claims. The rejections under 35 USC 112 have been withdrawn.

Response to Arguments

41. Applicant's arguments filed April 3, 2006 have been fully considered but they are moot in view of the new grounds of rejection.

Conclusion

42. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J. Avellino', is positioned above the printed name and date.

Joseph E. Avellino, Examiner
July 18, 2006